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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,298	12/18/2001	Matthew B. Donatucci	ATMI-514	1697
25559	7590	01/02/2004	EXAMINER	
ATMI, INC. 7 COMMERCE DRIVE DANBURY, CT 06810			BUEKER, RICHARD R	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,298

Applicant(s)

DONATUCCI ET AL.

Examiner

Richard Bueker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 15-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper Note (2 sheets)
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claims 15-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the response filed October 14, 2003.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 7-8, 10, 14, 25 and 26 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jurgensen (WO 01/61071). Published U.S. application 2003/0054099 is a patent family equivalent of WO 01/61071, and is used as an English translation in the discussion below. Jurgensen discloses (see Figs. 1 and 5) a vaporizer in the form of a block that has elongated wells formed therein. Space is provided in the block for accumulation of vapor, both in the individual wells and in the passageway 6. Jurgensen teaches (paragraphs 33 and 57) that the block is temperature controlled by, for example,

resistive heating, and therefore, the block is inherently or at least obviously thermally conductive as recited in claim 1. Also, the wells in the block are pressure controlled, and therefore the block is inherently or at least obviously sealed as recited in claim 1.

Claims 6, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jurgensen (WO 01/61071). While Jurgensen describes three wells in his exemplary embodiment, the use of a different number of wells, such as the 4 wells recited in claim 6, would have been merely additive and prima facie obvious to one skilled in the art. Also, the specific dimensions recited in claims 12 and 13 are considered to be routine optimization, and would have been prima facie obvious to one skilled in the art in the absence of a showing of unexpected results.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jurgensen (WO 01/61071) taken in view of Tanabe (2001/0008121), who teaches (see paragraph 52) that a thermocouple can be used to measure the temperature of a vaporizer for feedback control of the vaporizer temperature. It would have been obvious to one skilled in the art to use a thermocouple in the temperature controller of Jurgensen, in view of Tanabe's teaching that a vaporizer temperature can be successfully controlled using a thermocouple.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jurgensen taken in view of Holloway (3,647,197), who teaches (col. 4, lines 4-15) that it was known in the prior art to use aluminum as the material of construction for a thermally conductive vaporizer, and it would have been prima facie obvious to one skilled in the art to use this material for Jurgensen's thermally conductive vaporizer,

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because Holloway teaches that aluminum can successfully be used to construct a vaporizer that requires thermal conductivity.

Claims 1-4, 6, 7, 10 14, 25 and 26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Reed (3,740,043). Reed (see Figs. 1 and 2) discloses a vaporizer having a crucible 29 in the form of a block, wherein the block crucible contains within it a further block having elongated wells, and thus the wells are contained within the block crucible and can properly be considered to be "formed therein" as recited in claim 1. Also, Reed specifically teaches (col. 4, lines 65-68) that the block 30 containing the wells can be integral with the crucible block 29. The block crucible includes a vapor accumulation space (col. 6, lines 19-22) communicatively connected to the elongated wells. Also, an outlet for discharge of vapor is provided. The block crucible of Reed is inherently or at least obviously sealed, and therefore includes sealing means as required by claim 1.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed in view of Barr (2,447,789), Spriggs (3,405,251) or Jurgensen (WO 01/61071), each of whom teaches that a resistive heating element can successfully be used to heat a vaporizer, and for that reason it would have been obvious to one skilled in the art to heat the vaporizer of Reed by attaching resistive heating elements to its walls.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed in view of Tanabe (2001/0008121), who teaches (see paragraph 52) that a thermocouple can be used to measure the temperature of a vaporizer for feedback control of the vaporizer temperature. It would have been obvious to one skilled in the art to use a

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thermocouple in the temperature controller of Reed, in view of Tanabe's teaching that a vaporizer temperature can be successfully controlled using a thermocouple.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed (3,740,043) taken in view of Holloway (3,647,197), who teaches (col. 4, lines 4-15) that it was known in the prior art to use aluminum as the material of construction for a thermally conductive vaporizer, and it would have been prima facie obvious to one skilled in the art to use this material for Reed's thermally conductive vaporizer, because Holloway teaches that aluminum can successfully be used to construct a vaporizer that requires thermal conductivity. It is noted also that Reed provides guidance for the selection of materials of construction of his apparatus at col. 3, lines 44-48, wherein he teaches that the materials of construction should be chosen such that they are not chemically corroded by the particular evaporant material to be evaporated. Thus, it would have been obvious to use an aluminum crucible block with any evaporant that is compatible with aluminum.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed. The specific dimensions recited in claims 12 and 13 are considered to be routine optimization, and would have been prima facie obvious to one skilled in the art in the absence of a showing of unexpected results.

Claims 1-8, 10, 12-14, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horsky (6,107,634) taken in view of Barr (2,447,789), Reed (3,740,043) and/or Spriggs (3,405,251). Horsky (see Fig. 2, container 64) discloses a vaporizer for decaborane in which solid decaborane as an evaporant is placed in the

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bottom of a thermally conductive sealed container having an outlet for discharge of vapor, and means for heating the container are provided for vaporizing the decaborane. The evaporant is placed in the bottom of the container and the space above the evaporant is an accumulation space for accumulating vapor of the evaporant. Horsky does not disclose the use of a block having wells formed therein for holding the evaporant. Barr (Fig. 1), Reed (Figs. 1 and 2) and Spriggs (Figs. 1-4), however, all teach that an evaporant can be more uniformly heated and more uniformly evaporated by providing a block with wells for holding the evaporant, compared to a conventional vaporizer in which the evaporant is merely placed in the bottom of a vaporizer. It would have been obvious to one skilled in the art to provide a block with wells in the sealed chamber of Horsky in the location of Horsky's evaporant to hold the evaporant to be vaporized because Barr, Reed and Spriggs clearly teach that a block with wells for holding evaporant will more uniformly heat an evaporant material and more uniformly evaporate the evaporant material. It is noted that while Horsky uses a temperature controlled fluid to heat his vaporizer, it would have been obvious to substitute a resistance heater as recited in applicants' claim 7 and 8 as the heating means of Horsky, because both types of heating means are old and well known in the art of heating vaporizers.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horsky (6,107,634) taken in view of Barr (2,447,789), Reed (3,740,043) and/or Spriggs (3,405,251) as stated above, taken in further view of Tanabe (2001/0008121), who teaches (see paragraph 52) that a thermocouple can be used to measure the

temperature of a vaporizer for feedback control of the vaporizer temperature. It would have been obvious to one skilled in the art to use a thermocouple to control the temperature of Horsky's vaporizer, in view of Tanabe's teaching that a vaporizer temperature can be successfully controlled using a thermocouple.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horsky (6,107,634) taken in view of Barr (2,447,789), Reed (3,740,043) and/or Spriggs (3,405,251) as stated above, taken in further view of Holloway (3,647,197), who teaches (col. 4, lines 4-15) that it was known in the prior art to use aluminum as the material of construction for a thermally conductive vaporizer, and it would have been prima facie obvious to one skilled in the art to use this material for Horsky's thermally conductive vaporizer, because Holloway teaches that aluminum can successfully be used to construct a vaporizer that requires thermal conductivity.

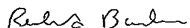
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (703) 308-1895. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (703) 308-1633. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Richard Bueker
Primary Examiner
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